CLAIMS

1. A projection display system, comprising:
(a) a light source;
(b) a polarizing device;
(c) at least one polarizing beamsplitter;
(d) at least one liquid crystal panel for generating an image;
(e) a projection source for projecting said image; and
(f) a color component rotator located between said polarization converter and said projection source.

2. The projection display system of claim 1 wherein said color component rotator is between said polarizing beamsplitter and said light source.

3. The projection display system of claim 1 further comprising a second color component rotator.

4. The projection display system of claim 1 further comprising a second liquid crystal display panel for generating a second image.

5. The projection display system of claim 4 further comprising a second color component rotator.

6. The projection display system of claim 4 further comprising a third liquid crystal display panel for generating a third image.

7. The projection display system of claim 6 further comprising a second color component rotator.

8. The projection display system of claim 1 wherein said polarizing device is a polarization converter.

9. The projection display system of claim 1 further comprising a pair of relay lenses.

10. The projection display system of claim 1 further comprising a dichroic filter.

11. The projection display system of claim 1 wherein said color component rotator is located between a polarizer and an analyzer.

12. The projection display system of claim 11 further comprising a dichroic filter.

13. The projection display system of claim 1 wherein light from said light source is separated into three color components.

14. The projection display system of claim 13 wherein said three color components are red, blue and green.

15. The projection display system of claim 3 further comprising a third and fourth color component rotator.

16. The projection display system of claim 15 further comprising a second liquid crystal display panel for generating a second image and a third liquid crystal display panel for generating a third image.

17. A projection display system, comprising:

(a) a light source;

(b) a polarization converter;

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(c) at least two polarizing beamsplitters;

(d) at least three liquid crystal display panels, each for generating a respective image;

(e) a projection source for projecting said images; and

(f) at least two color component rotators, each of said color component rotators being located between said polarization converter and said projection source.

18. The projection display system of claim 17 wherein one of said color component rotators is between one of said polarizing beamsplitters and said polarization converter.

19. The projection display system of claim 17 wherein said polarization converter comprises a flys eye lens plate and prism array.

20. The projection display system of claim 17 further comprising a dichroic filter and a crossed dichroic prism.

21. The projection display system of claim 20 further comprising a third polarizing beamsplitter.

22. The projection display system of claim 21 wherein each polarizing beamsplitter reflects a color component onto a respective one of said liquid crystal display panels.

23. The projection display system of claim 17 further comprising a pair of relay lenses.

24. The projection display system of claim 17 wherein said color component rotators are located between a polarizer and an analyzer.

25. The projection display system of claim 17 further comprising a pair of dichroic filters.

26. The projection display system of claim 25 wherein said pair of dichroic filters define at least two color channels, and one of said polarizing beamsplitters is located in one of said color channels and the other of said polarizing beamsplitters is located in the other of said color channels.

27. The projection display system of claim 17 wherein said projection source projects a projected image formed from three color components.

28. The projection display system of claim 27 wherein said three color components are red, blue and green.

29. The projection display system of claim 17 further comprising a third and fourth color component rotator.

30. The projection display system of claim 29 wherein said three images generated by said liquid crystal panels are combined in one of said polarizing beamsplitters.

31. The projection display system of claim 30 wherein said fourth color component rotator is located between said projection source and one of said polarizing beamsplitters in which said three images are combined.

32. A method for displaying an image, comprising:

(a) providing light comprised of a first color component, a second color component, and a third color component;

(b) converting said light to a single polarization state;

(c) separating said first color component from said second and third color components;

(d) changing said polarization state of said second color component relative to said third color component;

(e) separating said second color component from said third color component;

(f) generating respective images from each of said first, second and third color components; and

(g) projecting said images.

33. The method of claim 33 wherein said first, second and third color components are green, blue and red respectively.

34. The method of claim 32 wherein said polarization state of said second color component is changed again before generating said image from said second color component.

35. The method of claim 32 wherein said polarization state of said second color component is changed again after generating said image from said second color component.

36. The method of claim 32 wherein said first color component is separated from said second and third color component using a dichroic filter.

37. The method of claim 36 wherein said second color component is separated from said third color component using a polarizing beamsplitter.

38. The method of claim 32 wherein said polarization state of said second color component is changed using a color component rotator.

39. The method of claim 32 wherein said first, second and third color components are reflected onto respective liquid crystal display panels to generate said images.

40. The method of claim 39 wherein said first, second and third color components are reflected onto respective liquid crystal display panels using only two polarizing beamsplitters.

41. The method of claim 39 wherein said first, second and third color components are reflected onto respective liquid crystal display panels using three polarizing beamsplitters.

42. The method of claim 32 further comprising the step of changing the polarization state of said first color component before generating said image from said first color component.

43. The method of claim 42 further comprising the step of changing the polarization state of said first color component again after generating said image from said first color component.